

Claims

1. Blending apparatus comprises a container having an opening through which product to be blended is introduced into the container, a lid to close the opening, a blending element mounted on the lid and directed downwards into the container when the lid is located thereon, drive means driveably engageable with the blending element to rotate the element and obtain a blending action on product in the container, mounting means on which an assembly of container, lid and blending element is arranged to be located during blending, the container being moveable between an upright receiving position and an operative position in which the assembly is inverted with the lid lowermost and the drive means is connectable to the blending element.

2. Apparatus according to claim 1 wherein the mounting means includes a container holder into which the container is inserted and the holder is rotatable between the receiving position and the operative position.

3. Apparatus according to claim 2 comprising clamping means for holding the container in the holder during movement between the receiving and operative positions.

4. Apparatus according to any one of the preceding claims wherein the mounting means include a tapered seating which holds the container in place during inversion and operation.

5. Apparatus according to any one of the preceding claims wherein the holding means is located within a housing with access into the housing through an opening.

6. Apparatus according to claim 5 wherein the drive means is located in the base of the housing for connection to the blending element when in the inverted operative position.

7. Apparatus according to claim 6 wherein the drive means is moveable vertically into driving engagement with the blending means after the container reaches an operative blending position.

5 8. Apparatus according to claims 5, 6 or 7 wherein the housing provides a microwave housing whereby product within the container may be heated by microwave radiation prior to, during and/or after a blending operation.

10 9. Apparatus according to any one of the preceding claims wherein the drive means is arranged to rotate the blending element at different speeds including a blending speed and a lower mixing speed.

15 10. Apparatus according to any one of the preceding claims wherein the mounting means is carried on a reciprocal support and during reciprocal movement of the support the mounting means is rotated between the receiving and operating positions.

11. Apparatus according to claim 10 wherein the mounting means is moved relative to a fixed member, and cam and cam track means are arranged to cause the rotational movement of the mounting means during said reciprocal movements.

20 12. A container assembly for blending apparatus comprising a nestable container base, a lid to seal an upper opening of the base, and a blending element mounted on the lid for rotation relative thereto and extending into the container when assembled, the lid having an opening for receiving the blending element rotatably therein, the blending element including a shaft towards one end of which is carried blending blades and towards the other end of which is connection means for effecting driving connection with drive means, the shaft extending through the opening in the lid in use, the assembly being inverted in use to blend product in the container in the inverted position by operation of the blending element.

13. A container assembly according to claim 12 wherein the shaft of the blending element is a force fit into the opening in the lid and the shaft surface provides a bearing surface to permit rotation of the blending element relative to the lid.

5 14. A container assembly according to claim 13 wherein the shaft defines a shoulder which is a force fit through the opening and after entering the opening the shoulder prevents disengagement of the blending element.

10 15. A container assembly according to claim 12, 13 or 14 wherein the blending element and the lid opening are arranged to permit product in the container to contact the bearing surfaces to provide lubrication between the shaft and the opening.

15 16. A method of blending product within a container comprising an assembly of container base, lid for sealing an upper opening of the base, and a blending element mounted for rotation relative to the lid, in which the container base is filled through the upper opening, the blending element is united with the lid to be rotatable relative thereto, the lid is placed over the upper opening of the base and is sealed thereto, the assembly containing the food product is located in a holder, the holder is rotated to invert the container so that the lid is directed downwardly, and drive means is drivingly connected to the blending element and operated to blend product within the container.

20 17. A method according to claim 16 wherein the upper opening of the container is sealed after filling by locating a diaphragm which is heat sealed over said opening.

25 18. A method according to claim 16 or 17 wherein a diaphragm is located over the lid and associated blending element, the seal being accessed to permit a blending operation.

30 19. A method according to claim 16, 17 or 18 wherein, prior to a blending operation, the product in the container is at a cold temperature.